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09/431,159 11/01/99 BRONICKI

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EXAMINER

VARCOE JR, F

ART UNIT

PAPER NUMBER

1764

10

DATE MAILED:

07/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/431,159

Applicant(s)
Bronicki

Examiner
Varcoe

Art Unit
1764



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on May 14, 2001

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-3 and 10 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-3 and 10 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

- 1. ☐ Certified copies of the priority documents have been received.
- 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

The amendment of May 14, 2001, has been received. The 35 U.S.C. §112 rejections have been withdrawn. Claims 1-3 and 10 remain active.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Klinken et al. U.S. Patent No. 4,039,429.

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With regard to claim 1, van Klinken discloses a heater for heating the heavy hydrocarbons and an atmospheric fractionating tower for fractionating the heated heavy hydrocarbon feed. Van Klinken calls this combination a "First Atmospheric Distilling Zone (Figure 1 (2)). Since a still contains both a heat source and a fractionating tower, van Klinken's description "atmospheric distilling zone" is equivalent to the heater and an atmospheric fractionating tower of the present invention.

Van Klinken discloses a further heater and a vacuum fractionating tower ("First Vacuum Distilling Zone" Figure 1 (3)).

Van Klinken discloses a solvent deasphalting (SDA) unit (Figure 1 (4)).

Van Klinken discloses a thermal cracker (cracker (10) operates at 450° C to 525° C, column 3 line 50, and thus is thermal as well as catalytic).

Van Klinken discloses a thermal cracker (10) for cracking the deasphalted oil.

Van Klinken fails expressly to disclose a further cracker for thermally cracking the light vacuum fractions. Since van Klinken discloses thermally cracking the light vacuum fractions in a cracker (10), as well as cracking the deasphalted oil in a cracker (10) at the time of the invention it would have been obvious to one skilled in the art to use two crackers instead of one. This would be an obvious modification, since it has been held that mere duplication of parts has no patentable significance unless new and unexpected results are produced. In re Harza, 124 U.S.P.Q. 378 (C.C.P.A. 1960).

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While van Klinken fails expressly to disclose that the cracked light vacuum fraction is recycled to the inlet of the atmospheric fractionating tower, since one of the outputs of the apparatus of van Klinken (43) is considered residue (column 7 line 43), and since the apparatus of van Klinken used residue as its input stream (Abstract), it would have been obvious to recycle the output (43) to the inlet (13) of the system. The motivation would have been to convert a residue stream to a light distillate (Abstract).

With regard to claim 2, van Klinken discloses means (21) for supplying only the heavy portion of the light vacuum fractions to the thermal cracker.

With regard to claims 3 and 10, the apparatus of van Klinken includes essentially the same apparatus as the present claim, including a hydrotreater (9), a heater and atmospheric fractionating unit (Figure 1 (11), the distilling zone includes a heater and fractionating tower) but fails expressly to disclose an additional vacuum fractionating apparatus.

Van Klinken discloses an atmospheric fractionating tower (2) followed by a vacuum fractionating tower (3). At the time of the invention it would have been obvious to one skilled in the art to follow the atmospheric fractionating tower (Figure 1 (11)) with a vacuum fractionating tower as was done with the upstream atmospheric fractionating tower (Figure 1 (2)).

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The motivation would have been to further separate the process stream into fractions, just as was done upstream by the atmospheric fractionating tower (2) and the vacuum fractionating tower (3).

Response to Arguments

4. Applicant's arguments filed May 14, 2001, have been fully considered but they are not persuasive.

Applicant argues that since van Klinken discloses a system that uses only a catalytic cracker, van Klinken does not disclose the thermal cracker of the present invention. Examiner replies that since the device in van Klinken's Figure 1 (10) is a cracker that operates at elevated temperature, and since the Specification does not state that the cracker must not contain catalyst, there fore the heated cracker of van Klinken can be considered a thermal cracker.

Applicant notes that the present invention does not thermally crack the asphaltenes-containing fraction of the feed. What the claimed invention lacks is not relevant. Applicants note that the present claims contemplate use of the process to treat and convert whole crude oil, not just atmospheric reduced crude. That is an intended use and does not impart patentable weight in an apparatus claim.

Applicant argues that with regard to claims 3 and 10, van Klinken lacks a hydrotreater, a further atmospheric fractionating column, and an additional vacuum fractionating column. Examiner replies that van Klinken discloses a hydrotreater (Figure 1 (9)). Van Klinken also

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discloses an atmospheric fractionating column (2) for fractionating a heated, treated (in hydrotreater (1)) hydrocarbon stream. Claim 3, paragraph b, does not specify the source used to provide the heated, treated hydrocarbon stream. Van Klinken discloses an additional vacuum fractionating column (3).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Varcoe, whose telephone number is (703) 306-5477. The examiner can normally be reached Monday through Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311.

The FAX telephone number for this Group Art Unit is (703) 305-3599 (for Official papers after Final), (703) 305-5408 (for other Official papers) and (703) 305-6357 (for Unofficial papers).

When filing a FAX in Group 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite processing your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

RV

July 27, 2001

Hien Tran

**HIEN TRAN
PRIMARY EXAMINER**